

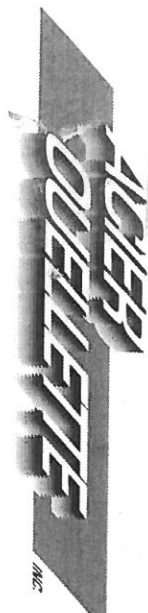


Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	F
PO038893	ACI001-VC	1	1	Net 30	M6061T6R1.625	6061T6 Round Bar 1.625 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft				12	1/2/2018	12		S038521	Stock	2/2/2018	\$ 6.72 / ft	0	
		7			M303R1.000	303 Round Bar 1.00 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft				24		24		S038522	Stock	2/2/2018	\$ 8.06 / ft	0	
		9			MT-4140QT-R1.375	MT-4140 QT-R1.375 : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT				20		20		S038523	Stock	2/2/2018	\$ 9.39 / ft	0	
		10			MT-4140QT-R2.250	AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT						20		S038524	Stock	2/2/2018	\$ 21.76 / ft	0	
		11			MT-A513-T-4.000W0.120	A513 Seamless Alloy Steel Round Tubing 4" dia. x 0.120" Wall						20		S038525	Stock	2/2/2018	\$ 19.35 / ft	0	
		15			M304B0.750X2.500	304 Bar .750 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		12		S038526	Stock	2/2/2018	\$ 24.22 / ft	0	
		16			M304B0.500X2.500	304 Bar .500 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft						12		S038527	Stock	2/2/2018	\$ 13.47 / ft	0	
		19			M2024T3S.125	2024-T3 .125 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf				48		48		S038528	Stock	2/2/2018	\$ 17.35 / sf	0	
		20			M5052H32S.032	5052-H32 .032 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf				64		64		S038529	Stock	2/2/2018	\$ 2.59 / sf	0	
Total:										232		232							

Plex 2/2/2018 2:12 PM Dart Dubois Pascal



ACIER OUELLETTE INC.

935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

CO00071920

Billed to
DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Instruction F-M

Att : CHANTAL LAVOIE Tél.: 613-632-5200
Delivery Route 5

Customer N° CLI0001056
Date 2018/01/30
Delivery date 2018/02/01
Your order N° PO038893
Processed by Stephanie Dignard
Salesman OUELLETTE VALLEYFIELD
Carrier Net 30 Days
Credit Terme 1
Page 1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND ALU 1 5/8 6061-T6 RANDOM RAL-158-V 5138 1 X 12' AC13162-TH-2018/01/31	29.23	12.00	PL_\$CLB		14 12		12				
2 ROUND SS 1 303 RANDOM RSS-1303-V 8519 2 X 12' R/L	64.08	24.00	PL_\$CLB		2X12'4"		24				
3 ALU SHEET 1/8 2024-T3 RANDOM NS FEAL-182024-V 8603 1 X 4' X 12'	84.58	48.00	PI2_\$CLB		14 4X12		48				

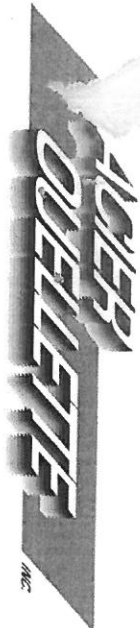
Total Weight (lbs) : 177.89

NIR : R-109516-6

Conditions :
All sold and delivered materials remain the property of "Acier Ouellette Inc." until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By : <i>CL</i>	Verified By :	Delivered By : <i>P.O.M.</i>	Time
Customer's Signature _____			
Date <i>18/02/18</i>			

Total (\$CAD)



ACIER OUELLETTE INC.

935, Boul. du H vre
Salaberry de Valleyfield (Qu bec) J6S 5L1
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

CO00071813

Billed to

DART AEROSPACE LTD
1270 , ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Instruction F-M

Att : CHANTAL LAVOIE T l.: 613-632-5200
Delivery Route 5

Page

2

Customer N 

CLI0001056

Date

2018/01/30

Delivery date

2018/02/01

Your order N 

PO038893

Processed by

Stephanie Dignard

Salesman

OUELLETTE VALLEYFIELD

Carrier

Credit Terme

Net 30 Days

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
4 ROUND 4140 HT 1 3/8 NS R4140-138H 9252 1 X 20' R/L AC13143-JG-2018/01/31	100.98	20.00	PL_\$CLB		1x 20 1/3"		20				
5 ALU SHEET .032 (20G) 5052-H32 NS FEAL-032 9714 2 X 4' X 8' AC13144-RV-2018/01/31	28.86	64.00	PI2_\$CLB		2x 4'x8'		64				

Total Weight (lbs) : 357.28

NIR : R-109516-6

Conditions :
All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By :

Verified By :

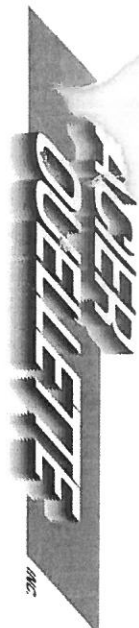
Delivered By :

Time

Customer's Signature

Date

Total (\$CAD)

**ACIER OUELLETTE INC.**

935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

CO00071813

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att: CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M**Delivery Route** 5**Page**

1

Customer N°

CLI0001056

Date

2018/01/30

Delivery date**2018/02/01****Your order N°**

PO038893

Processed by

Stephanie Dignard

Salesman**Carrier**

OUELLETTE VALLEYFIELD

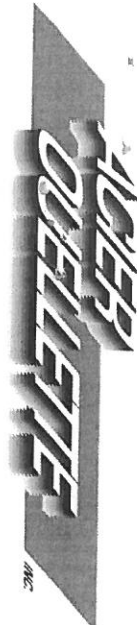
Credit Terme

Net 30 Days

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 TUBE MEC 4.000 OD X .120 NS TME-4000120 10007 1 X 20' R/L AC13141-MM-2018/01/31	99.46	20.00	PI_\$PI		1X 24'		24				
2 FLAT SS 3/4 X 2 1/2 SS304 RANDOM NS FSS-34212-V 8747 1 X 12' R/L AC13141-MM-2018/01/31	76.50	12.00	PI_\$CLB		1X 128 1/4"		12				
3 FLAT SS 1/2 X 2 1/2 SS304 RANDOM NS FSS-12212-V 8302 1 X 12' R/L AC13142-SM-2018/01/31	51.48	12.00	PI_\$CLB		1X 12'		12				

NIR : R-109516-6

Next Page...



DELIVERY - CLIENT

CO00071815

ACIER OUELLETTE INC.

935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl.: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl.: 514-336-4246 Ext.: 866-456-4242

Customer N°

CL10001056

Date

2018/01/30

Delivery date

2018/02/01

Your order N°

PO038893

Processed by

Stephanie Dignard

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Instruction F-M

Att: CHANTAL LAVOIE Tél.: 613-632-5200
Delivery Route 5

Page

1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND 4140 HEAT TREAT 2 1/4 RANDOM R4140-214H-V 4927 1 X 243-1/4" TRANSIT ST-JEROME 2018/01/31	274.05	20.27	PL_\$CLB		14 243 1/4"		20				

Conditions:

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Total Weight (Lbs): 274.05

NIR: R-109516-6

Prepared By:

Verified By:

Delivered By:

Time

Customer's Signature

Date

Total (\$CAD)



ACIER OUELLETTE INC.
935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J65 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Order - Sales

Copy

CO00071813

Customer N° CLJ0001056
Date 2018/01/30

Delivery date 2018/02/01

Your order N° PO038893

Processed by Stéphanie Dignard

Salesman

Carrier

Credit Terme

OUELLETTE VALLEYFIELD
Net 30 Days

Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Delivery Route 5

Page

1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
1 TUBE MEC 4.000 OD X .120 NS TME-4000120 10007 1 X 20' R/L HEAT: WELK165351 AC13141-MM-2018/01/31	99.46	20.00	PI_\$PI	0.00						
2 FLAT SS 3/4 X 2 1/2 SS304 RANDOM NS FSS-34212-V 8747 1 X 12' R/L HEAT: 266000 AC13141-MM-2018/01/31	76.50	12.00	PI_\$CLB	0.00						
3 FLAT SS 1/2 X 2 1/2 SS304 RANDOM NS FSS-12212-V 8302 1 X 12' R/L HEAT: 234L AC13142-SM-2018/01/31	51.48	12.00	PI_\$CLB	0.00						

NIR : R-109516-6

Next Page...



ACIER OUELLETTE INC.
935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Order - Sales

Copy CO00071813

Customer N° CL10001056
Date 2018/01/30
Delivery date 2018/02/01
Your order N° PO038893
Processed by Stephanie Dignard
Salesman
Carrier QUELLETTE VALLEYFIELD
Credit Terme Net 30 Days

Billed to

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,
Att : CHANTAL LAVOIE Tél.: 613-632-5200
Delivery Route 5

Page 2

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	S/O	IN	I	S	C	OUT
4 ROUND 4140 HT 1 3/8 NS R4140-138H 9252 1 X 20' R/L HEAT: 243795 AC13143-J6-2018/01/31	100.98	20.00	PL \$CLB	0.00							
5 ALU SHEET .032 (20G) 5052-H32 NS FEAL-032 9714 2 X 4' X 8' HEAT: 1-65-2-2 AC13144-RY-2018/01/31 SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE	28.86	64.00	P12 \$CLB	0.00							
			\$	0.00							

Total Weight (LBS) if 357.28

NIR : R-109516-6

Conditions :
As sold and delivered materials remain the property of Acier Ouellette Inc. until payment is made in full. Complete and signed. All lost materials are at the Buyer's expense. The warranty offered by Acier Ouellette Inc. is the same as offered and "covered" by the manufacturer and its warranty is transferred by Acier Ouellette Inc. to the client. The buyer hereby accepts to respect the respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the difference due or the replacement of the goods sold. All claims must be made within 150 (150) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By :	Verified By :	Delivered By :	Time	Customer's Signature	Y	M	D
---------------	---------------	----------------	------	----------------------	---	---	---

Total (\$CAD) 1 352.63
Deposit 0.00
Balance 1 352.63



ACIER OUELLETTE INC.
935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Ntl: 514-336-4246 Ext.: 866-456-4242

Order - Sales

Copy CO00071920

Billed to

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,
At: CHANTAL LAVOIE Tél.: 613-632-5200
Delivery Route 5

Customer N° C10001056
Date 2018/01/30
Delivery date 2018/02/01
Your order N° PO038893
Processed by Stephanie Dignard
Salesman
Carrier OUELLETTE VALLEYFIELD
Credit Terme Net 30 Days
Page 1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
1 ROUND ALU 1 5/8 6061-T6 RANDOM RAL-158-V 5138 1 X 12' HEAT (201716738) AC13162-TH-2018/0731	29.23	12.00	PL_\$CLB	0.00						
2 ROUND SS 1 303 RANDOM RSS-1303-V 8519 2 X 12' R/L HEAT 232X	64.08	24.00	PL_\$CLB	0.00						
3 ALU SHEET 1/8 2024-T3 RANDOM NS FEAL-182024-V 8603 1 X 4' X 12' HEAT (21356384)	84.58	48.00	PL2_\$CLB	0.00						
SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE			\$	0.00						

496.25



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038893**

Supplier: ACI001-VC
Acier Ouellette Inc.
935 Boul. Du Havre
Valleyfield
QC
J6S 5L1 Canada
Phone: 800 667 4248
Fax: 450 377 5696

PO No: PO038893
PO Date: 1/29/18
Due Date: 1/31/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Phone:

E-MAILED

JAN 29 2018

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M6061T6R1.625		6061T6 Round Bar 1.625 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	1/31/18	12 ft	0 ft	12 ft	\$6.7225/ft	\$80.67
2	M6061T6R4.000		6061-T6 Round Bar 4.000" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	1/31/18	6 ft	0 ft	6 ft	\$42.405/ft	\$254.43

FEB 01 2018

DAS
11
9-89

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	M6061T6R1.000		Round Bar 1.00" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	1/31/18	20 ft	0 ft	20 ft	\$2.5525/ft	\$51.05
4	M6061T6R2.250		6061-T6 Round Bar 2.250" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	1/31/18	6 ft	0 ft	6 ft	\$14.18666/ft	\$85.12
5	M304R0.4375		304 Round Bar 0.4375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	1/31/18	12 ft	0 ft	12 ft	\$1.5325/ft	\$18.39
6	M304R0.375		304 Round Bar 0.375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	1/31/18	24 ft	0 ft	24 ft	\$1.188/ft	\$28.51
7	M303R1.000		303 Round Bar 1.00 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE: 304/316 NOT ACCEPTABLE receive ft	Firmed	1/31/18	24 ft	0 ft	24 ft	\$8.0620833/ft	\$193.49
8	M303R0.750		303 Round Bar 0.750 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE: 304/316 NOT ACCEPTABLE receive ft	Firmed	1/31/18	96 ft	0 ft	96 ft	\$4.8507291/ft	\$465.67
9	MT-4140QT-R1.375		MT-4140 QT-R1.375 : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT	Firmed	1/31/18	20 ft	0 ft	20 ft	\$9.3885/ft	\$187.77

FEB 01 2018

DAS
11
9-89

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
10	MT-4140QT-R2.250		AISI 4140 Q&T Round Bar : MAT'L: AISI 4130 QUENCHED & TEMPERED ROUND BAR AS PER ASTM 4140 QT OR ASTM 4142 QT	Firmed	1/31/18	20 ft	0 ft	20 ft	\$21.7605/ft	\$435.21
11	MT-A513-T- 4.000W0.120		A513 Seamless Alloy Steel Round Tubing 4"dia. x 0.120" Wall	Firmed	1/31/18	20 ft	0 ft	20 ft	\$19.35/ft	\$387.00
12	M1018B1.000X03.000		1010-1025 Steel Bar 1.000 X 3.000 : MATERIAL: AISI 1010- 1025 OR ASTM A36/A366/A569/A570 OR OR CSA G40-21 38W/44W/50W/60W/70W CSA G40-21 OR 38W/44W/50W/60W/70W	Firmed	1/31/18	12 ft	0 ft	12 ft	\$10.195/ft	\$122.34
13	M303B1.000X1.000		M303B1.000 X 1.000 : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE receive ft	Firmed	2/7/18	12 ft	0 ft	12 ft	\$9.52/ft	\$114.24
14	M303B1.000X03.000		303 Bar 1" X 3' : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE receive ft	Firmed	2/13/18	12 ft	0 ft	12 ft	\$75.33/ft	\$903.96
15	M304B0.750X2.500		304 Bar .750 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	2/1/18	12 ft	0 ft	12 ft	\$24.221666/ft	\$290.66
16	M304B0.500X2.500		304 Bar .500 X 2.50 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	1/31/18	12 ft	0 ft	12 ft	\$13.468333/ft	\$161.62
17	M1018R0.250		M1018R0.250 : MATERIAL: AISI 1018- 1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed	1/31/18	12 ft	0 ft	12 ft	\$0.16/ft	\$1.92
18	M1018R2.00		M1018R2.00 : MATERIAL: AISI 1018- 1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108 receive ft	Firmed	1/31/18	20 ft	0 ft	20 ft	\$9.6065/ft	\$192.13

FEB 01 2018

DAS
11
9-89

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
19	M2024T3S.125		2024-T3 .125 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	1/31/18	32 sf	0 sf	32 sf	\$17.35469/sf	\$555.35
20	M5052H32S.032		5052-H32 .032 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf	Firmed	1/31/18	64 sf	0 sf	64 sf	\$2.59375/sf	\$166.00
										Grand Total: \$4,695.53

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.



Plex 1/29/18 12:46 PM dart.lavoie.chantal



ACIER OUELLETTE INC.

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Quotation

SOU0081335

Billed to

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

6061 T6B
2.5 x 4.5

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Customer N°

CLI0001056

Date

2018/01/19

Revision N°

0

Prices valid until

2018/01/26

Your Order N°

Processed by

Josianne Bourdon

Salesman

JOSIANNE

Carrier

OUELLE SDV

Credit Terms

Net 30 Days

Page

1

Product N° and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND ALU 1 5/8 6061-T6 RANDOM RAL-158-V 5138 1 X 12' STOCK	29.23	12.00	PI_\$CLB	12.00	PI		1.00	80.670	80.67
ROUND ALU 4 6061-T6 RANDOM RAL-4-V 5163 1 X 6' STOCK COUPE A LA SCIE SCIE 1	88.58	6.00	PI_\$CLB	6.00	PI		1.00	254.430	254.43
ROUND ALU 1 6061-T6 RANDOM RAL-1-V 5141 1 X 20' STOCK	18.50	20.00	PI_\$CLB	20.00	PI		1.00	51.050	51.05
ROUND ALU 2 1/4 6061-T6 RANDOM RAL-214-V 5145 1 X 6' STOCK COUPE A LA SCIE SCIE 1	28.02	6.00	PI_\$CLB	6.00	PI		1.00	85.120	85.12
ROUND SS 7/16 304 RANDOM RSS-716-V 5779 1 X 12' R/L STOCK	6.13	12.00	PI_\$CLB	12.00	PI		1.00	18.390	18.39
ROUND SS 3/8 304 RANDOM RSS-38-V 5768 2 X 12' R/L STOCK	9.02	24.00	PI_\$CLB	24.00	PI		2.00	14.255	28.51
ROUND SS 1 303 RANDOM RSS-1303-V 8519 2 X 12' R/L STOCK	64.08	24.00	PI_\$CLB	24.00	UN_\$UN		2.00	96.745	193.49
ROUND SS 3/4 303 RANDOM RSS-34303-V 5761 8 X 12' R/L 2-3 DAYS	144.19	96.00	PI_\$CLB	96.00	PI		8.00	58.208	465.67

Date :

Next Page...



ACIER OUELLETTE INC.

935, Boul. du H vre
Salaberry de Valleyfield (Qu bec) J6S 5L1
T l.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Quotation

SOU0081335

Billed to

DART AEROSPACE LTD
1270 , ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Customer N  CLI0001056
Date 2018/01/19
Revision N  0
Prices valid until 2018/01/26
Your Order N 
Processed by Josianne Bourdon
Salesman JOSIANNE
Carrier OUELLE SDV
Credit Terms Net 30 Days
Page 2

Product N� and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND 4140 HT 1 3/8 NS R4140-138H 9252 1 X 20' R/L 2-3 DAYS	100.98	20.00	PI_\$CLB	20.00	UN_\$UN		1.00	187.770	187.77
ROUND 4140 HEAT TREAT 2 1/4 RANDOM R4140-214H-V 4927 1 X 20' R/L 2-3 DAYS	270.40	20.00	PI_\$CLB	20.00	PI		1.00	435.210	435.21
TUBE MECH A513 4" OD X .120 N 1 X 20' R/L 2-3 DAYS	0.00	1.00	UN	1.00	UN		1.00	387.000	387.00
FLAT CR 1 X 3 1018 RANDOM FCR-13-V 2727 1 X 12' R/L STOCK	122.40	12.00	PI_\$CLB	12.00	PI		1.00	122.340	122.34
SQUARE SS 1 SS303 NS CSS-1303 9512 1 X 12' R/L 1 WEEK	40.80	12.00	PI_\$CLB	12.00	UN_\$UN		1.00	114.240	114.24
PLAT SS303 1 X 3 N 1 X 12' R/L 7-10 DAYS	0.00	1.00	UN	1.00	UN		1.00	904.000	904.00
FLAT SS 3/4 X 2 1/2 SS304 RANDOM NS FSS-34212-V 8747 1 X 12' R/L 2-3 DAYS	76.50	12.00	PI_\$CLB	12.00	UN_\$UN		1.00	290.660	290.66
FLAT SS 1/2 X 2 1/2 SS304 RANDOM NS FSS-12212-V 8302 1 X 12' R/L	51.48	12.00	PI_\$CLB	12.00	PI		1.00	161.620	161.62
ROUND CR 1/4 1018 RANDOM RCR-14-V 5277 1 X 12' R/L STOCK	2.00	12.00	PI_\$CLB	12.00	PI		1.00	1.920	1.92
ROUND CR 2 1018 RANDOM RCR-2-V 5319 1 X 20' R/L STOCK	213.60	20.00	PI_\$CLB	20.00	PI		1.00	192.130	192.13

Date :

Next Page...

**ACIER OUELLETTE INC.**

935, Boul. du H vre
Salaberry de Valleyfield (Qu bec) J6S 5L1
T l.: 450-377-4248 M l: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 M l: 514-336-4246 Ext.: 866-456-4242

Quotation**SOU0081335****Billed to**

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE T l.: 613-632-5200

Customer N  CLI0001056
Date 2018/01/19
Revision N  0
Prices valid until 2018/01/26
Your Order N 
Processed by Josianne Bourdon
Salesman JOSIANNE
Carrier OUELLE SDV
Credit Terms Net 30 Days
Page 3

Product N� and description	Weight	Qty	U/M	Qty	U/M	Price	Pcs Nb	Price	Amount
ROUND 4140 HT 1-3/8 IN R4140-138H 9252 1 X 20' R/L 2-3 DAYS	100.98	20.00	PI_\$CLB	20.00	UN_\$UN		1.00	187.770	187.77
ALU PLATE 1/4 6061-T651 RANDOM PAL-146061-V 4245 1 X 6 1/4" X 96" STOCK SHEAR CUT SHEAR 2	18.30	5.00	PI2_\$CLB	5.00	PI2		1.00	85.870	85.87
ALU SHEET 1/8 2024-T3 RANDOM NS FEAL-182024-V 8603 1 X 4' X 8' STOCK	56.38	32.00	PI2_\$CLB	32.00	PI2		1.00	555.350	555.35
ALU SHEET .032 (20G) 5052-H32 NS FEAL-032 9714 2 X 4' X 8' 2-3 DAYS	28.86	64.00	PI2_\$CLB	64.00	UN_\$UN		2.00	83.000	166.00
SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE			\$						3.95

Total Weight (Lbs) 1 470.43**Important**

This offer is based on availability and current pricing conditions that may be revised upon reception of the order.

This offer is subject and conditional to credit approval.

Approved and Accepted by :

Date :

Sub-total 4 973.16

TVH-13   646.51

Total (\$CAD) 5 619.67

Chantal Lavoie

From: Chantal Lavoie
Sent: Friday, January 19, 2018 11:35 AM
To: 'Josianne Bourdon'
Cc: Diane Baker
Subject: quote

Good morning Josianne,
Please advise price an delivery on mat'l.

6061t6 round bar 1.625" x 12 ft

6061-t6 round bar 4" x 6 ft

6061-t6 round bar 1" x 12 ft

6061-t6 round bar 2.250" x 6 ft

304 round bar 0.4375 x 12 ft

304 round bar 0.375" x 24 ft

303 round bar 1" x 24 ft

303 round bar 0.750" x 96 ft

4140 qt 1.375" x 12 ft

4140 qt 2.250" x 12 ft

A513 round bar 4" x 0.120 wall x 12 ft

1018 bar 1" x 3" x 12 ft

303 bar 1" x 1" x 12 ft

303 bar 1" x 3" x 12 ft

304 bar 0.750" x 2.5" x 12 ft

304 bar 0.500" x 2.50" x 12 ft

1018 round bar 0.250" x 12 ft

1018 round bar 2.00" 20 ft

4140h round bar 1.375" x 12 ft

6061-t6 bar or plate 0.250" x 6.250" x 8 ft

2024t3 sheet 125" x 32 sf

5052h32 sheet 1032" x 64 sf

Thanks
Chantal Lavoie
Purchasing Coordinator

DART AEROSPACE
T 1 613 632-5200
F 1 613 632-1053
E clavoie@dartaero.com
1 800 556- 4166
www.dartaerospace.com





CO. 71813 DART

PTC Tubular Products LLC

FAIRBURY PLANT

23041 E 800 North Rd • Fairbury, IL 61738

PO. 13141
Shipper's No. 221786

TEST REPORT

PO# 8C6923
DATE 02/23/17
PACKAGING:

1X19 1X18

PIECES 37
FT 888'
POUNDS 4,416#

MO# 67260

OD: 4.000/4.011"
ID: 3.749/3.760" (REF: .120 WALL)
LNTH: 20/24' R/L

MD~ SAE 1020-AK
ASTM A-513-TYPE 5
STRESS RELIEVE

CD, 4.000 .120 3.760

HEAT# NLK1663551
C .19 Mn .38 P .007 S .006 Al.051
Si .020 Co .000 V .001 Cu .030 Mo .010 Ni .020 Cr .020
Tensile 85000 Yield 73600 Elong 19 HRb 90 HRb 90

COUNTRY OF ORIGIN: USA

PO.13141

Acciaierie Valbruna S.p.A.



CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEUGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204 (2004) , 3.1

36100 VICENZA (Italia) - Viale della scimmia, 25 r.l.
 36100 BOLZANO (Italia) - Via A. Volta, 4
 Telephone number : 0039 (0) 44496821

Clienti / Kunden / Clients / Clients
VALBRUNA CANADA LTD
8724 HULGATE CRESCENT
L5T 5Z1-MILTON, ONT L5T 5Z1-CA

Produttore: **ACCIAIERIE VALBRUNA S.P.A.**
 Hersteller / Manufacturer / Producteur

Avviso di Spedizione: D-VII4040056
 L'azienda Valbruna S.p.A.

Ordine nr. 411005036 Stock - Contada
 Best.-Nr. oder Kundennummer

Certificato nr. MEST618656/2014/
 Prüfungszettelnummer

Conferma ordine nr. E114012062
 Nachtrag zum Bestellschein

Marchio di Fabbrica:
 Zeichen nach EN 10204
 Right to Engraving

Punzone del Collezionista:
 Stempel des Sammlers
 Hersteller- und Kundenstempel



Stato di finitura: Hot rolled Descalped Annealed Hot rolled
 Lieferzustand: Lieferzustand / Lieferzustand

Tipo di Elaborazione: E+AOD
 Erzeugung: Erzeugung / Erzeugung

Specifiche:
 Anforderungen / Requirements / Exigences

VSI Q 304/304L A
 AMS 5647 J S30403 A
 ASME SA193 2013 B8 CLASS1 (1)
 ASME SA479 2013 S30400/03 A (4)
 ASTM A262 2013 PRACTICE E
 ASTM A320 2011A B8 CLASS1
 MIL-S-862 B/F 304/304L
 QQ-S-753 F 304/304L A

AISI 304/304L
 AMS-QQ-S-763 C 304/304L A
 ASME SA276 2013 S30400/03 A (2)
 ASTM A182 2012B S30400/03 A (5)
 ASTM A276 2013A S30400/03 A
 ASTM A479 2001 S30400/03 (6)
 NACE MR0103 2010 S30400/03 A

AMS 5639 H S30400 A
 ASME SA182 2013 S30400/03 A (0)
 ASME SA320 2013 B8 CLASS1 (3)
 ASTM A193 2011A B8 CLASS1
 ASTM A314 2008 S30400/03
 ASTM A479 2013A S30400/03 A
 NACE MR0175 2009 S30400/03 A (7)

- (0) SECTION 1 PT A 2013 EDITION
- (1) SECTION 1 PT A 2013 EDITION
- (3) SECTION 1 PT A 2013 EDITION
- (4) For products machined directly from bar round also
- (6) Chemical analysis only
- (7) Technical circular 1:2011 Published 2011 06 14

- (0) For products machined directly from bar refer to ASME SA479.
- (2) SECTION 1 PT A 2013 EDITION
- (4) SECTION 1 PT A 2013 EDITION
- (5) to ASTM A479
- (7) ANSRACE MR0175/ISO 15156-3, second edition 2009-10-15

Qualità: 304/304L
 Material Certificate

Marca: AISI

Tolleranza: ASTM A484-14 TABLE 5

Punzonatura: 304/304L
 Kennzeichnung: Kennzeichnung

Pos. nr. Pos. nr. Pos. nr.	Objetto Component Description	Dimensioni - In mm Dimensions Dimensions	Lunghezza - In mm Length Length	Colore Schmelze Color	Pezzi Spacings Pieces	Peso - LB Weight Poids	Logo nr. Logo Logo
0020	Flat	2,5000 x 0,7500	144 / 155	266000		2.967	426903270

TEST ALLO STATO DI FORNITURA

Test del delivery condition / Prüfung zur Lieferbedingung / Prüfung des Zustands der Lieferung / Prüfung des Zustands der Lieferung

TEST	Prove/Prüfung	*F	Res. Stärke	Grundergebnis Ergebnis	Stärke/Prüfung Ergebnis	Resistenz Fähigkeit	ASlungamento Dehnung	Stirazione Verformung	Resistenza Fähigkeit	Durezza Härte
	Value highest	min		30		75	40	50		140
	Value lowest	max		115		115				235
A	12.5	B8	L	46		91	52	70		185

TEST	min	max
A	Grain size for ASTM E112	6

Ergebnis der Prüfung / Prüfungsergebnis / Prüfungsergebnis / Prüfungsergebnis

Analisi chimica

Chemische Zusammensetzung / Chemical composition / Composition chimique / Composition chimique

Cp.262 Ergebnis	min min	max max	1.00	2.00	10.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	C %	Si %	Mn %	Cr %	Mo %	Cu %	Ni %	Co %	P %	S %	N %				
266000	0.020	0.41	1.64	18.74	0.45	0.31	8.09	0.119	0.032	0.027	0.093				

Produced without class I-II Ozone depleting substances.
 Solution heat treated from continuous carbide network.
 Micro and macro graph test: OK
 Intergranular corrosion test per ASTM A262 pract. E. ok.
 Absence of cracks at 20x magnification after bend test.
 Reduction ratio = 25.7 %
 Annealing temperature 1840°F for 1 hour.

Vicenza, 17/12/14 Vicepresidente	Il collaudatore di stabilimento / der Werkstoffprüfer / der Werkstoffprüfer / der Werkstoffprüfer M. Rizzotto	Pagina: 1 di 2
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Acciaierie Valbruna S.p.A.



CERTIFICATO DI COLLAUDO
ABNAHMEPRUEFZEUGNIS
INSPECTION CERTIFICATE
CERTIFICAT DE RECEPTION
EN 10204 (2004) , 3.1

36100 VICENZA (Italia) - Viale della scienza, 25 z.1
Sedi : 39100 BOLZANO (Italia) - Via A. Volta, 4
Telephone number : 0039 (0) 44968211

Clienti / Kunden / Purchased
VALBRUNA CANADA LTD
8724 HOLTGATE CRESCENT
L5T 5Z1-MILTON ONT L5T 5Z1-CA

Produttore: **ACCIAIERIE VALBRUNA S.P.A.**
Herstellere: Valbruna S.p.A.

Stato di fornitura: Hot-rolled Descalced Annealed Hot-rolled
Lieferzustand: Delivery state: Lieferzustand

Material is DFARS Compliant

Sono state soddisfatte tutte le condizioni richieste
Die gestellten Bedingungen sind erfüllt worden
The material has been furnished in accordance with the requirements
Le Bedingungen sind erfüllt worden

Controllo antimosche: OK
Moscheenkontrolle: OK
Moscheenkontrolle: OK
Moscheenkontrolle: OK
Moscheenkontrolle: OK

Controllo vena e dimensionale: soddisfa le esigenze
Beschreibung und Ausmessung: entspricht den Anforderungen
Vena mesurée et dimensionnée: satisfait les exigences
Controllo vena e dimensionale: satisfait les exigences

Melting and manufactured in Italy No welding or weld repair Material free from mercury contamination
We declare that the finished product is checked for radioactivity contamination through Portal System when it leaves the production plant.
The Quality Management System is Certified acc. Pressure Equipment Directive (97/23/EC) Annex 1, 4.3 by TÜV and LLOYD'S
Any act of tampering, modification, alteration, counterfeiting and/or falsification and/or any other action which modifies the contents of this test certificate shall constitute a violation of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.
The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the Products.

Q.C. Reviewed
SR02/27/15

Vicenza, 17/12/14 M. Rizzotto	Il collaudatore di stabilimento / der Werksaufseher / Works inspector / L'agent d'usine M. Rizzotto	Pagina - 2 di 2
----------------------------------	--	-----------------



METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 313587 3 Mail To:

Ship To:

Date: 7/19/2017 Page: 1

Customer:

Steel ~~304~~/304L

Your Order

NAS Order:

Corrosion: ASTM A262/16a A 180B and -C

PRODUCT DESCRIPTION:

SAE AMS QQ-S-763
 92A08/15, 92A09/15, 92A10/15, 92A11/15, 92A12/15, 92A13/15, 92A14/15, 92A15/15, 92A16/15, 92A17/15, 92A18/15, 92A19/15, 92A20/15, 92A21/15, 92A22/15, 92A23/15, 92A24/15, 92A25/15, 92A26/15, 92A27/15, 92A28/15, 92A29/15, 92A30/15, 92A31/15, 92A32/15, 92A33/15, 92A34/15, 92A35/15, 92A36/15, 92A37/15, 92A38/15, 92A39/15, 92A40/15, 92A41/15, 92A42/15, 92A43/15, 92A44/15, 92A45/15, 92A46/15, 92A47/15, 92A48/15, 92A49/15, 92A50/15, 92A51/15, 92A52/15, 92A53/15, 92A54/15, 92A55/15, 92A56/15, 92A57/15, 92A58/15, 92A59/15, 92A60/15, 92A61/15, 92A62/15, 92A63/15, 92A64/15, 92A65/15, 92A66/15, 92A67/15, 92A68/15, 92A69/15, 92A70/15, 92A71/15, 92A72/15, 92A73/15, 92A74/15, 92A75/15, 92A76/15, 92A77/15, 92A78/15, 92A79/15, 92A80/15, 92A81/15, 92A82/15, 92A83/15, 92A84/15, 92A85/15, 92A86/15, 92A87/15, 92A88/15, 92A89/15, 92A90/15, 92A91/15, 92A92/15, 92A93/15, 92A94/15, 92A95/15, 92A96/15, 92A97/15, 92A98/15, 92A99/15, 92A100/15, 92A101/15, 92A102/15, 92A103/15, 92A104/15, 92A105/15, 92A106/15, 92A107/15, 92A108/15, 92A109/15, 92A110/15, 92A111/15, 92A112/15, 92A113/15, 92A114/15, 92A115/15, 92A116/15, 92A117/15, 92A118/15, 92A119/15, 92A120/15, 92A121/15, 92A122/15, 92A123/15, 92A124/15, 92A125/15, 92A126/15, 92A127/15, 92A128/15, 92A129/15, 92A130/15, 92A131/15, 92A132/15, 92A133/15, 92A134/15, 92A135/15, 92A136/15, 92A137/15, 92A138/15, 92A139/15, 92A140/15, 92A141/15, 92A142/15, 92A143/15, 92A144/15, 92A145/15, 92A146/15, 92A147/15, 92A148/15, 92A149/15, 92A150/15, 92A151/15, 92A152/15, 92A153/15, 92A154/15, 92A155/15, 92A156/15, 92A157/15, 92A158/15, 92A159/15, 92A160/15, 92A161/15, 92A162/15, 92A163/15, 92A164/15, 92A165/15, 92A166/15, 92A167/15, 92A168/15, 92A169/15, 92A170/15, 92A171/15, 92A172/15, 92A173/15, 92A174/15, 92A175/15, 92A176/15, 92A177/15, 92A178/15, 92A179/15, 92A180/15, 92A181/15, 92A182/15, 92A183/15, 92A184/15, 92A185/15, 92A186/15, 92A187/15, 92A188/15, 92A189/15, 92A190/15, 92A191/15, 92A192/15, 92A193/15, 92A194/15, 92A195/15, 92A196/15, 92A197/15, 92A198/15, 92A199/15, 92A200/15, 92A201/15, 92A202/15, 92A203/15, 92A204/15, 92A205/15, 92A206/15, 92A207/15, 92A208/15, 92A209/15, 92A210/15, 92A211/15, 92A212/15, 92A213/15, 92A214/15, 92A215/15, 92A216/15, 92A217/15, 92A218/15, 92A219/15, 92A220/15, 92A221/15, 92A222/15, 92A223/15, 92A224/15, 92A225/15, 92A226/15, 92A227/15, 92A228/15, 92A229/15, 92A230/15, 92A231/15, 92A232/15, 92A233/15, 92A234/15, 92A235/15, 92A236/15, 92A237/15, 92A238/15, 92A239/15, 92A240/15, 92A241/15, 92A242/15, 92A243/15, 92A244/15, 92A245/15, 92A246/15, 92A247/15, 92A248/15, 92A249/15, 92A250/15, 92A251/15, 92A252/15, 92A253/15, 92A254/15, 92A255/15, 92A256/15, 92A257/15, 92A258/15, 92A259/15, 92A260/15, 92A261/15, 92A262/15, 92A263/15, 92A264/15, 92A265/15, 92A266/15, 92A267/15, 92A268/15, 92A269/15, 92A270/15, 92A271/15, 92A272/15, 92A273/15, 92A274/15, 92A275/15, 92A276/15, 92A277/15, 92A278/15, 92A279/15, 92A280/15, 92A281/15, 92A282/15, 92A283/15, 92A284/15, 92A285/15, 92A286/15, 92A287/15, 92A288/15, 92A289/15, 92A290/15, 92A291/15, 92A292/15, 92A293/15, 92A294/15, 92A295/15, 92A296/15, 92A297/15, 92A298/15, 92A299/15, 92A300/15, 92A301/15, 92A302/15, 92A303/15, 92A304/15, 92A305/15, 92A306/15, 92A307/15, 92A308/15, 92A309/15, 92A310/15, 92A311/15, 92A312/15, 92A313/15, 92A314/15, 92A315/15, 92A316/15, 92A317/15, 92A318/15, 92A319/15, 92A320/15, 92A321/15, 92A322/15, 92A323/15, 92A324/15, 92A325/15, 92A326/15, 92A327/15, 92A328/15, 92A329/15, 92A330/15, 92A331/15, 92A332/15, 92A333/15, 92A334/15, 92A335/15, 92A336/15, 92A337/15, 92A338/15, 92A339/15, 92A340/15, 92A341/15, 92A342/15, 92A343/15, 92A344/15, 92A345/15, 92A346/15, 92A347/15, 92A348/15, 92A349/15, 92A350/15, 92A351/15, 92A352/15, 92A353/15, 92A354/15, 92A355/15, 92A356/15, 92A357/15, 92A358/15, 92A359/15, 92A360/15, 92A361/15, 92A362/15, 92A363/15, 92A364/15, 92A365/15, 92A366/15, 92A367/15, 92A368/15, 92A369/15, 92A370/15, 92A371/15, 92A372/15, 92A373/15, 92A374/15, 92A375/15, 92A376/15, 92A377/15, 92A378/15, 92A379/15, 92A380/15, 92A381/15, 92A382/15, 92A383/15, 92A384/15, 92A385/15, 92A386/15, 9

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
Steel Making Process: BAF, MOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Cont. w/ISO 9001
Noticed & Manufactured in the USA, Mat'l is DPAE Compliant

MECHANICAL PROPERTIES

test and this report cannot be reproduced, except in its entirety, without the written approval of NAS. The test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr

KRIS LARK

7/19/2017

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 03

Certification Date
31-JAN-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

Invoice Number
S702883

AC00013143
PART NUMBER/NUMÉRO DE PIÈCE

SOLD TO: ACIER OUELLETTE INC. **SHIP TO:** ACIER OUELLETTE INC.
VENDU À: DIVISION SALABERRY DE VALLEYFIELD **EXPÉDIÉ À:** DIVISION SALABERRY DE VALLEYFIELD
935, BOUL. DU HAVRE 935, BOUL. DU HAVRE
SALABERRY-DE- VALLEYFIELD QC J6S 5L1 SALABERRY-DE- VALLEYFIE QC J6

Description: 4140/4142 HR HT BAR STRESS FREE 269/321 BHN
1-3/8 RD X 20' R/L Line Total: 102 LB
HEAT: 243795 ITEM: 506428

Specifications:

ASTM A193 GR B7 16
ASTM A962/A962M SEC 16
ASTM A322 13
ASTM E45 13
ASTM A388 16
EN 10204 3.1
MIC 6016-16 16

ASTM A434 GR BC 16
JDM AO QL-2
ASTM A304 16
ASTM E10 15
ASTM A751 14
ASTM A388/A388M (S1) 16
MIC 6016/2016 ADD 10 16

ASME SA193 GR B7 01
ASTM A29 16
ASTM E112 13
ASTM E709 15
ASTM A370 16
API 6A/ISO10423 PSL3

CHEMICAL ANALYSIS

C	MN	SI	P	S	CR	NI	MO
0.421	0.98	0.32	0.013	0.011	1.05	0.18	0.23
AL	CU	SN	TI	B	V	NB	AS
0.026	0.40	0.012	0.0036	0.0001	0.008	0.008	0.005
CA	SB	CO	H				
0.0005	0.001	0.0090	0.0001				

RCPT: R383318

COUNTRY OF ORIGIN : ITALY

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
	KSI	KSI	IN 02 IN	IN AREA	BHN
	131.0	146.0	16.5	52.0	315

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The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport n'a rencontré les spécifications décrites ci-haut.

Joanne Despres

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

PO. 71813
Page 02 of 03

Certification Date
31-JAN-2018

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT
AC00013143

Invoice Number
S702883

PART NUMBER/NUMÉRO DE PIÈCE

ACIER OUELLETTE INC.		ACIER OUELLETTE INC.	
DIVISION SALABERRY DE VALLEYFIELD		DIVISION SALABERRY DE VALLEYFIELD	
SOLD TO:	935, BOUL. DU HAVRE	SHIP TO:	935, BOUL. DU HAVRE
VENDU À:	SALABERRY-DE- VALLEYFIELD	EXPÉDIE À:	SALABERRY-DE- VALLEYFIELD QC J6:

Description: 4140/4142 HR HT BAR STRESS FREE 269/321 BHN
1-3/8 RD X 20' R/L Line Total: 102 LB
HEAT: 243795 ITEM: 506428

END-QUENCH HARDENABILITY (JOMINY - RC)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
58	58	58	57	57	56	56	55	55	54	53	52	51	50	50
16	18	20	22	24	26	28	30	32						
49	49	48	47	46	45	45	44	43						

IDEAL DIAMETER : 7.47 IN GRAIN SIZE : 8 -

IMPACT TEST		UOM ft-lbs		% LAT		DESCRIPTION
TYPE	TEMP	ORNT	SMP#1	#2	AVG	
CHARPY	68 F	LONG	78.0	83.0	87.0	82.7

CLEANLINESS

	A		B		C		D	
	THIN	THICK	THIN	THICK	THIN	THICK	THIN	THICK
	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX
e45	1.5	1.0	1.5	0.5	0.0	0.0	1.5	1.0

STRAND CAST VACUUM DEGASSED
MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
ULTRASONIC: YES
THERMAL TREATMENT: OK
AUSTENITIZE 1616 DEG F WATER X 122'
TEMPERED 1166 DEG F AIR X 143'
STRESS RELIEVED 1094 DEG F X 143'

JOANNE DESPRES

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Material did not come in contact with mercury while in our possession./Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

Joanne Despres
Page 03 of 03

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Certification Date
31-JAN-2018

AC00013143
CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

Invoice Number
S702883

PART NUMBER / NUMÉRO DE PIÈCE
ACIER OUELLETTE INC.
DIVISION SALABERRY DE VALLEYFIELD
935, BOUL. DU HAVRE
SALABERRY-DE- VALLEYFIELD QC J6S 5L1

ACIER OUELLETTE INC.
DIVISION SALABERRY DE VALLEYFIELD
935, BOUL. DU HAVRE
SALABERRY-DE- VALLEYFIELD QC J6

SOLD TO:

SHIP TO:

Vendor: 4140/4142 HR HT BAKED STEEL FREE 269/321 BHN

1-3/8 RD X 20' R/L

Line Total: 102 LB

HEAT: 243795

ITEM: 506428

QUENCH WATER TEMP: BEFORE 86 DEG F AFTER 108 DEG F

MACRO: OK

MICRO: OK

COMMENTS

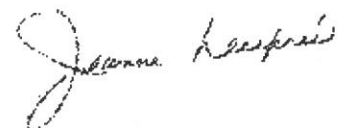
red. ratio = 60

JOANNE DESPRES

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Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.



MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

PO. 71813

DART

PO. 13144

浙江永杰铝业有限公司

Zhejiang Yongjie Aluminum Co., Ltd.

浙江永杰铝业有限公司

ZHEJIANG YONGJIE ALUMINUM CO., LTD

Jiangdong Industrial Area, Xiaoshen Economic and Technology Development Zone, Hangzhou, 311222, China

MILL TEST

浪子 (2)

To: EMPIRE RESOURCES, INC.
2116 LINWOOD AVENUE, FORT LEE, NEW JERSEY 07024, USA
TEL: 201.944.2200 X 123/ FAX: 201.944.2226
SHIPPING MARKS: N/A

Invoice No.: YJMT0308-2
Date: MAR. 8, 2017

Packag e No.	P O No.	Heat Number	Alloy/ Temper	Specification	Actual Thickn ess	N.W. (MT)	G.W. (MT)	CHEMICAL COMPOSITION, %											MECHANICAL PROPERTIES		
								SI	Fe	Cu	Mn	Mg	NI	Zn	TI	Cr	Al	T.S. (KSI)	Yield (KSI)	Elongat ion (%)	
158-1	R153727	217020621-1	AA5052 H32	0.063"±0.001"	0.063	3.347	3.408	0.090	0.280	0.010	0.090	2.540	-	0.010	0.019	0.180	96.76	33.8	26.3	7.5	
158-2	R153727	1-65-4-1	AA5052 H32	0.040"±0.001"	0.040	4.617	4.678	0.080	0.230	0.001	0.010	2.700	-	0.010	0.015	0.180	96.74	32.8	26.0	10.0	
158-3	R153727	017020303-1	AA5052 H32	0.080"±0.001"	0.080	4.665	4.802	0.080	0.220	0.010	0.010	2.320	-	0.008	0.012	0.170	97.20	31.9	24.7	12.5	
158-4	R153727	017020303-2	AA5052 H32	0.080"±0.001"	0.080	4.136	4.178	0.060	0.220	0.010	0.010	2.320	-	0.008	0.012	0.170	97.20	31.9	24.7	12.5	
158-5	R153727	2-90-5-2	AA5052 H32	0.063"±0.001"	0.062	2.188	2.268	0.060	0.220	0.001	0.010	2.640	-	0.010	0.019	0.190	96.82	33.4	26.8	8.0	
158-6	R153727	2-90-5-3	AA5052 H32	0.063"±0.001"	0.062	2.170	2.262	0.060	0.220	0.001	0.010	2.640	-	0.010	0.019	0.190	96.82	33.4	26.8	8.0	
158-7	R153727	2-90-5-4	AA5052 H32	0.063"±0.001"	0.062	2.180	2.280	0.060	0.220	0.001	0.010	2.640	-	0.010	0.019	0.190	96.82	33.4	26.8	8.0	
158-8	R153727	2-90-5-1	AA5052 H32	0.063"±0.001"	0.062	2.168	2.268	0.060	0.220	0.001	0.010	2.640	-	0.010	0.019	0.190	96.82	33.4	26.8	8.0	
158-1	R153728	017020324-2	AA6062 H32	0.080"±0.001"	0.080	4.636	4.674	0.070	0.220	0.010	0.010	2.440	-	0.003	0.011	0.170	97.07	31.2	25.8	8.5	
158-2	R153728	1-65-2-2	AA6062 H32	0.062"±0.001"	0.061	4.448	4.516	0.060	0.230	0.001	0.010	2.700	-	0.010	0.015	0.180	96.74	34.1	24.8	8.0	
158-3	R153727	017020281-1	AA6062 H32	0.080"±0.001"	0.080	4.335	4.372	0.070	0.220	0.010	0.010	2.400	-	0.008	0.011	0.180	97.08	32.5	26.0	10.0	
158-4	R153727	017020133-4	AA6062 H32	0.080"±0.001"	0.079	2.207	2.282	0.070	0.210	0.010	0.010	2.420	-	0.003	0.010	0.170	97.10	31.9	26.7	11.0	
158-5	R153727	017020305-4	AA6062 H32	0.080"±0.001"	0.079	2.078	2.152	0.080	0.220	0.010	0.010	2.320	-	0.008	0.012	0.170	97.19	32.2	26.8	11.0	
158-6	R153727	1-31-5-1	AA6062 H32	0.063"±0.001"	0.062	1.813	1.878	0.050	0.220	0.010	0.010	2.380	-	0.010	0.020	0.190	97.12	32.1	24.9	8.0	
158-7	R153727	1-31-5-2	AA6062 H32	0.063"±0.001"	0.062	1.813	1.878	0.050	0.220	0.010	0.010	2.380	-	0.010	0.020	0.190	97.12	32.1	24.9	8.0	
158-8	R153727	1-31-5-5	AA6062 H32	0.063"±0.001"	0.062	2.053	2.120	0.050	0.220	0.010	0.010	2.380	-	0.010	0.020	0.190	97.12	32.1	24.9	8.0	
158-9	R153727	217020034-2-2	AA6062 H32	0.063"±0.001"	0.062	2.025	2.104	0.090	0.260	0.008	0.080	2.630	-	0.007	0.010	0.170	96.84	34.4	24.9	10.0	
180-1	R153727	217020865-2	AA6062 H32	0.063"±0.001"	0.063	3.452	3.512	0.120	0.270	0.018	0.046	2.610	-	0.008	0.015	0.180	96.80	33.2	26.4	9.0	
180-2	R153741	1-34-2-1	AA6062 H32	0.125"±0.001"	0.125	4.462	4.498	0.080	0.240	0.010	0.010	2.380	-	0.010	0.020	0.200	97.07	32.3	26.0	9.5	
180-3	R153741	1-34-2-2	AA6062 H32	0.125"±0.001"	0.126	4.424	4.480	0.080	0.240	0.010	0.010	2.380	-	0.010	0.020	0.200	97.07	32.3	26.0	9.5	
180-4	R153741	017020474-1	AA6062 H32	0.125"±0.001"	0.124	4.417	4.468	0.070	0.200	0.010	0.010	2.380	-	0.008	0.012	0.180	97.15	31.6	25.8	10.5	
180-5	R153741	017010101-2	AA6062 H32	0.125"±0.001"	0.124	4.387	4.424	0.080	0.230	0.010	0.010	2.460	-	0.008	0.015	0.180	97.01	33.2	26.1	9.5	
180-6	R153741	1-62-4-2	AA6062 H32	0.125"±0.001"	0.124	4.582	4.628	0.070	0.260	0.010	0.010	2.430	-	0.010	0.020	0.230	96.87	33.4	26.0	9.5	

MATERIAL CONFORMS FOR ALLOY 6062 H32 ALUMINUM ASSOCIATION STANDARDS, ASTM B208-10, AMS-QQ-A-260/8B AND AMS-4016L AND MATERIAL IN ALLOY 3003, H14 CONFORMS TO ALUMINUM ASSOCIATION STANDARDS, ASTM B208-10, AMS-QQ-A-260/2 AND AMS 4008K, COUNTRY OF ORIGIN AND MANUFACTURE IN CHINA.



Service Center Metals
5850 Quality Way
Prince George, VA 23875



**CERTIFIED INSPECTION REPORT AND TEST RESULTS
FOR EXTRUDED PRODUCTS**

OUR ORDER NUMBER	ITEM
933547	3

MANIFEST NUMBER 348551
CUSTOMER PO VIM-643845
CUSTOMER PART NUMBER RD0011

DIE NUMBER RD0011
DATE OF SHIPMENT 10/26/2017
ALLOY TEMPER 6061-T6511
SALES PERSON D. Schroeder (Canada)
DESCRIPTION Lightning Rod Tile 1.625 +/- .004

CERTIFICATION
ASTM-B221-14 Stencil Cont
SPECIFICATION
AMS-QQA-200/8 Rev-A

We hereby certify that the material covered by this report has been inspected in accordance with the most recent certification revision, and has been found to meet the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material meet the composition limits and had the mechanical properties shown. Items produced and certified as aluminum products supplied by Service Center Metals, LLC contain no functional mercury. Neither mercury nor its compounds are used in the manufacture of aluminum products at our facility. Furthermore, aluminum products supplied by Service Center Metals have not to the best of our knowledge, contacted any source of mercury.

CM is ISO 9001-2015 certified This product is RoHS-2, REACH, and DEARS compliant.

Mechanical Properties

Tests	Lot No.	Test Date	Ultimate Tensile Strength (KSI)	Yield Strength (KSI)	Percent Elongation
3	201716738	10/19/17	min 49.40 max 52.60	min 45.50 max 48.90	min 11.50 max 17.30

Chemical Composition for Aluminum Alloy 6061

Cast #	Lot No.	Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Others Each Total	Melt Source:
1E1709298	201716738	6061	0.70	0.37	0.32	0.11	0.87	0.10	0.05	0.03	97.47	0.05	0.15
1J170928K	201716738	6061	0.74	0.40	0.32	0.10	0.92	0.11	0.07	0.03	97.32	0.05	0.15
1J170928S	201716738	6061	0.73	0.40	0.32	0.11	0.90	0.11	0.06	0.03	97.33	0.05	0.15

United States of America
United States of America
United States of America

All products are melted and extruded in the USA

Calvin J. Wiggins, Director of Quality & Technical Services

Print Date: 10/26/2017

Rev 1/2017



#8519
North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

PO, 12054
6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000
49375

Certificate: 276092 4
Customer: 007080 003

Your Order: MM5611

INS Order: IM 0244860 03

Date: 3/22/2017 Page: 1
Steel: 303
Finish: CD
Corrosion:
Red Ratio: 69.4 :1

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
UNS 30300, ASTM A582/12 EN 10204 3.1, ASTM A484/15
AMS 5640V TYPE 1, QCS-764B CONDITION A
BOLOTION AERIAL TYPE 1500P MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DRAW 252.225-7009 EX DIRECTIVE
2011/65/EU, ROHS. HAZ+ADD+CC. NO WELD REPAIR. WELDED AND WFO
IN USA FROM MERCURY AND LOW MELTING ALLOY COMPARISON

Product Id	Std # Diameter	Size	Weight	Length	Mark	Places	Commodity Code
BI4098 0	1.0000	1/2	829	144.00	3	1	

CHEMICAL ANALYSIS											Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323	
CM(County of Men) ES(Spain) US(United States) ZA(South Africa) JP(Japan)											Chemical Analysis per ASTM A751/14a	
MS Foot	CM	C %	CO %	CR %	CU %	MO %	NO %	W %	BT %	P %		
232X	US	.0397	.0875	17.0705	.2690	1.8330	.2685	.0422	8.5350	.0250		
		S %	87 %									
		.3255	.5080									

MECHANICAL PROPERTIES

Product Id	1 4 0 1 0 2	RD	RO.	.2YR	UTS	RA	Elng	% 4D
BI4098 0	RL	156.0	43.00	84.00	58.00	48.00		

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical Dept. Mgr.
KRIS LARK
3/22/2017

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4462724

CUSTOMER PO NUMBER: C74167-1	WORK PACKAGE:	CUSTOMER PART NUMBER:	SHIP RUN/LOAD: 103917/20	GOVT CONTRACT NUMBER:
KAISER ORDER NO: 1234495-1	SHIP DATE: 9-MAY-2017	ALLOY: 2024	CLAD: ALCLAD	TEMPER: T3
PRODUCT DESCRIPTION: Kaiser Stretched				
WEIGHT SHIPPED: 3196 LB	QUANTITY: 37 PCS EST.	TRUCK B/L #: 2066764	GAUGE: 0.1250 IN (3.1750 MM)	DIA/METER/WIDTH: 48.000 IN (1219.2 MM)
			LENGTH: 144.000 IN (3657.6 MM)	

MHU 2114184: LOT 219563B4: 37 pieces;

Certified Specifications

✓ AMS4462
CMMP 019/RevD

✓ AMS-QQ-A-250/5/RevB
✓ CMMP 025/RevV

✓ ASTM B 209/Rev14

Test Code: 1505

Lot: 219563B4

Cast 403

Drop 97

Test Results

Ingot 4

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper:	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T3	LT / 2 (Min:Max)	64.2 : 64.8 (443 : 446)	44.0 : 44.2 (303 : 305)	20.0 : 21.7

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.03	0.20	4.6	0.57	1.3	0.01	0.12	0.02	0.01	0.01	TOT 0.05

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
2024												
MIN(wt%)	0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT	0.15
Liner Alloy:	1230											
MIN(wt%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EACH	0.03
MAX(wt%)	0.25	0.30	0.10	0.06	0.05	0.03	0.05	0.03	0.03	0.03	TOT	0.00

Aluminum Remainder



Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4462724

CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- * has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
- * All test equipment and measuring devices are calibrated and certified in accordance with applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
- * was melted in the United States of America or a qualifying country per DFARS 225.872-1(A), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- * has been thermally processed in compliance with AMS 2772, where applicable.
- * is mercury free, within the limits of detection of ASTM E1215 (<1ppm).
- * is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- * is in compliance with European Chemical Agency, (ECHA), REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
- * is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
- * is free of weld repair.
- * meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on this certificate may be punished as a felony under federal law.

JAMES HEMENWAY, TECHNICAL PROCESS MANAGER

Eaton Steel Bar Company Inspection Certificate 1622162

EN 10204:2004-3.1

Customer	BOC	Ship Date	Customer PO	Item	Customer Item	Item Description
	206200	15-Feb-2017	886099	11139 PW 004	V012162	2-114 HR RD 4140X2414 241 SBQ Q15F P0 MST

All bundles listed below were produced using steel from Heat 75065500 issued by Gerdau Monrovia and were completed from Eaton Steel Job 609246.

Chemistry	Description	Value	Units	Heat Treating	Description	Value	Units
C	Carbon	0.43000	PMST	TEMPER TEMP F	Temper Temp in Fahrenheit	530 - 2500	TEMP
Mn	Manganese	0.83000	PMST	AUSTENITIZING TEMP F	Austenitizing Temp in Fahrenheit	1450 - 1700	TEMP
P	Phosphorus	0.01100	PMST	SAF TENSILE F	Tensile Strength in Fahrenheit	530 - 2500	TEMP
S	Sulfur	0.01800	PMST	MAGNETIC TEMP F	Magnetic Temp in Fahrenheit	8 - 20	TEMP
Si	Silicon	0.25000	PMST	TEMP AT TENSILE	Temp at Tensile	Report	PMST
Al	Aluminum	0.16000	PMST	QUENCH MEDIA	Quench Media Requirement	CEMENTED	PMST
Cr	Chromium	1.60000	PMST	STRESS F	Stress F	CONFIRMED	PMST
Mo	Molybdenum	0.03600	PMST	STRESS F	Stress F	CONFIRMED	PMST
Al	Aluminum	0.03600	PMST	STRESS F	Stress F	CONFIRMED	PMST
Co	Copper	0.27000	PMST	STRESS F	Stress F	CONFIRMED	PMST
V	Vanadium	0.00100	PMST	STRESS F	Stress F	CONFIRMED	PMST
Ch	Chromium	0.00200	PMST	STRESS F	Stress F	CONFIRMED	PMST
N	Nitrogen	0.00040	PMST	STRESS F	Stress F	CONFIRMED	PMST
P+S	Element Sum Limit	0.02800	PMST	STRESS F	Stress F	CONFIRMED	PMST
OT	Total Nitrogen	5.14000	PMST	STRESS F	Stress F	CONFIRMED	PMST
Chemistry	Description	Value	Units	Heat Treating	Description	Value	Units
REPORTED	Report Macro etch results.						
Geometry	Description	Value	Units	Heat Treating	Description	Value	Units
DIMENSION	Dimension	2.3500 - 2.2813	IN				
Geometry	Description	Value	Units <td></td> <td></td> <td></td> <td></td>				
J1	1/16 inch from Quenched End	57	HRC				
J2	3/16 inch from Quenched End	57	HRC				
J3	1/16 inch from Quenched End	57	HRC				
J4	4/16 inch from Quenched End	57	HRC				
J5	5/16 inch from Quenched End	57	HRC				
J6	4/16 inch from Quenched End	57	HRC				
J7	7/16 inch from Quenched End	57	HRC				
J8	4/16 inch from Quenched End	55	HRC				
J9	5/16 inch from Quenched End	54	HRC				
J10	10/16 inch from Quenched End	53	HRC				
J11	11/16 inch from Quenched End	50	HRC				
J12	12/16 inch from Quenched End	48	HRC				
J13	14/16 inch from Quenched End	46	HRC				
J14	16/16 inch from Quenched End	46	HRC				
J15	18/16 inch from Quenched End	46	HRC				
J16	20/16 inch from Quenched End	45	HRC				
J17	22/16 inch from Quenched End	43	HRC				
J18	24/16 inch from Quenched End	40	HRC				
J19	28/16 inch from Quenched End	38	HRC				
J20	32/16 inch from Quenched End	36	HRC				
Mechanical	Description	Value	Units	Heat Treating	Description	Value	Units
TENSILE TEST	Tensile Strength in PSI Units	143700	PSI				
YIELD TEST	Yield strength in PSI Units	129300	PSI				
ELONGATION	Percent Elongation	21.40	PCT				
REDUCTION	Percent Reduction in Area	56.0	PCT				
3110011 9027	External Surface	293.0	BDN				
Tag Number	Qty	Length	Value	Units	Tag Number	Qty	Length
022-1917905	3470 LBS	2417210/2247221		IN			



GERDAU SPECIAL STEELS NORTH AMERICA
5551 MONTELEONE ROAD
HOUSTON, TEXAS 77056-4311

159452	10938/4140/4204	25065500	107423	102	12/27/16
159452		25065500		107423	
10938/4140/4204		25065500		107423	
10938/4140/4204		25065500		107423	

DAN MCMAHON
Eaton Steel Corporation
10221 CAPITAL

Eaton Steel Corporation
c/o Apollo Heat Treat
10400 CAPITAL STREET

OAK PARK, MI 48237

OAK PARK, MI 48237

4140/4204	2	1/4"	RND	24"	2"
ITEM 10909 REV 7 DTD 11/14/15: ASTM A304-11; ASTM A322-13					

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Sn	Al
0.42	0.61	0.031	0.018	0.25	0.16	1.00	0.16	0.27	0.010	0.016
V	Nb									
0.001	0.002									

HYDROGEN = 2.1 ppm

GRAIN SIZE SPECIFICATION ASTM B112 FINE GRAIN 5-8

WELDABILITY SPECIFICATION ASTM A235/A304

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20	22	24	26	28	30	32	34
57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57	57

DI CALCULATION SPECIFICATION CMT 120024

5.34

NOTE: 1. No certify that these data are correct and in compliance with specified requirements.

Gerdau Monaca
1008 East Front Street
Monaca, MI 48161

[Signature]
DATE: 12/27/16

CONTINUED ON PAGE 2



GERDAU SPECIAL TREAT NORTH AMERICA
5830 WILSON ROAD
JACKSON, MISSISSIPPI 39201

CERTIFIED MATERIAL TEST REPORT

ORIGINAL ORDER NUMBER	159452	REORDERED PART NUMBER	10909/4140/4230	DATE ORDERED	75065500	TOTAL LABOR CHARGE	107423 102	DATE	12/27/16
DATE OF TEST		210PM H116C		DATE OF TEST					

DAN MCNAUGHTON
BATON STEEL CORPORATION
10321 CAPITAL

BATON STEEL CORPORATION
C/O APOLLO HEAT TREAT
10400 CAPITAL STREET
OAK PARK, MI 48237

OAK PARK, MI 48237

ORDERED

DATE	4140/4200	QTY	2	SIZE	1/4"	RND	24	LOOSE	2"
------	-----------	-----	---	------	------	-----	----	-------	----

ITEM 10909 REV 7 DTD 11/24/13; ASTM A304-11 ASTM A322-13

REDUCTION RATIO SPECIFICATION ITEM 10909

RATIO= 16.9 TO 1.0

RESIDUAL YAK SPECIFICATION ITEM 10909

F+S = 0.0290

RESIDUAL MIN SPECIFICATION ITEM 10909

F+S = 0.0290

WELDED/ROLLED @ GERDAU MONROE: MEETS GAE J422 S5/03 RATING
(WORST FIELD); ASTM E381 MACRO ETCH SATISFACTORY; SI/RI/CI; VACUUM DEGAUSSER
** MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC
ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT
BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED
TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT
TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION.
GERDAU MONITORS ALL INCOMING SCRAP AND ALL HEATS OF STEEL TO ENSURE THAT
PRODUCTS SHIPPED ARE FREE OF RADIOACTIVE MATERIAL.

PAGE 2 OF 2
We certify that these data are correct and in compliance with specified requirements.

Gerdau Metals
3000 East Front Street
Monroe, MI 48151
Gerdau
Quality Control Department

Lab Services Report



10221 Capital Avenue
Oak Park, MI 48237
(248) 543-3578 / 5608708
(248) 388-1434 faxline

Bill To: Aceto Heat Treating
10400 Capital Avenue
Oak Park, MI
Attn: Request ID: 17-03889

Ship To: Aceto Heat Treating
10400 Capital Avenue
Oak Park, MI
Report Date: 07/30/2012
Report ID: 17-03889
Request ID:

The report does not include the following items for the following reasons:

Part No.	11139 Q15C	Part No.	11139 Q15C	Part No.	11139 Q15C
Size	2.14	Size	2.14	Size	2.14
Item Name	1011	Item Name	1011	Item Name	1011
Item Name ID	1011	Item Name ID	1011	Item Name ID	1011
17-03889-1	75065500	17-03889-1	75065500	17-03889-1	75065500

Report Approved By: Steve Avery

Mechanical Testing

ASTM E84-16a

Sample ID	12-248-1	101100	124500	21	50	200
Test Results						

Test Results Method: NBS R6014



Report ID: 17-03889
Page 1 of 2



Any services with a location marked with an asterisk (*) are not part of Tran Berkeley's current A/LA jurisdiction.
As stated previously by Tran Berkeley will drive at a rate of 60mph (30mph) for the purpose.

Report 0.11-0.14
Page 2 of 2



Heat Treating & Processing Company, LLC

10400 Capital Avenue • Odessa, Michigan 48237 • (248) 398-3435

CERTIFICATION OF HEAT TREATMENT

Date: 7/8/2017
Certification Number: 17-0067
Customer Order Number: 809248
Part Number: 10909-11139
Heat Number: 75065500
Heat Treat Job Number: 7401

Material: 4140
Quantity: 70 pcs.
Weight: 23,155 lbs.
Description: 2.1500 Diameter x 24" Length
Per Specification: ESHY HT4140-42QT

	Temperature	Time at Heat	Coolant
Normalized	N/A		
Preheat	N/A		
Austenitized/Hardened	1550 °F	30 Minutes	
Spray Quenched	102.8 °F - 104.5 °F	N/A	Water
Temper	3220 °F	3 Hour 25 Minutes	Air Cooled to Ambient
Temper	N/A		

Method of heat treat monitor, set point thermocouple (Type K). Equipment calibrated per AMS2750E.
We hereby certify the above material has been treated in the manner described and correct as
contained in the records of Apollo Heat Treating and Processing, LLC.

Tom Hall
Ready L. Call
Plant Manager
Apollo Heat Treating & Processing, LLC

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M5052H325.032
 DATE: FEB 02 2018

PO / BATCH NO.: 038893/6028529

MATERIAL CERT REQ'D: yes
 QUANTITY RECEIVED: 64112
 QUANTITY INSPECTED: 64112
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.32
 THICKNESS RECEIVED: 0.32
 SHEET SIZE ORDERED: 4x8
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Astm B209
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 1-65-2-2
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS
11
 DATE: 9-8 FEB 02 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in:

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 5052-H32 ALUMINUM SHEET

SPECIFICATION: QQ-A-250/8 OR AMS-QQ-A-250/8
OR AMS 4016
OR ASTM B209

PART NUMBER: M5052H32S1XXX
THK

WHERE "XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M5052H32.063

PREFERRED SIZE: .XXX BY 4 FT BY 8 FT

RELEASED
R 2009-10-30
AWP

B	REFORMAT DWG. ADD B209 SPEC (ZN D6-1), PAR 08-020A	CP	09.09.26
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.09.26		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M5052H32S			
REV. B SHEET 1 OF 1			
TITLE 5052-H32 SHEET SPEC			
SCALE NTS			
DATE 09.09.26			
COPYRIGHT © 2001 BY DART AEROSPACE LTD			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M2024/35.125
 DATE: FEB 02 2018

PO / BATCH NO: 038893/5038528

MATERIAL CERT REQ'D: YES
 QUANTITY RECEIVED: 48^{pi}2
 QUANTITY INSPECTED: 48^{pi}2
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .125
 THICKNESS RECEIVED: .125
 SHEET SIZE ORDERED: 4X12
 SHEET SIZE RECEIVED: 4X12

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	<u>Astm B209</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>Heat # 21956384 219563B4</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____	
DATE: <u>11</u> 9-89	DATE: <u>FEB 02 2018</u>	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 2024-T3 ALUMINUM SHEET

SPECIFICATION:

QQ-A-250/4 OR AMS-QQ-A-250/4
OR ~~AMS 4037~~
OR ASTM B209

PART NUMBER:

M2024T3S | XXX
THK

WHERE ".XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M2024T3S.063

PREFERRED SIZE:

.XXX BY 4FT BY 10FT

RELEASED
2009-03-03
JN

B		REFORMAT DWG. ADD ASTM B209 SPEC (ZN DB-1), PAR		CP	09.07.07
A		NEW ISSUE		DS	01.09.24
REV	DESCRIPTION	BY	DATE		
DESIGN					
DRAWN					
CHECKED					
MFG. APPR.					
APPROVED					
DE APPR.					
DATE	09.07.07				
		TITLE			
		DRAWING NO.			
		HAWKESBURY, ONTARIO, CANADA			
		DART AEROSPACE LTD			
		M2024T3S			
		2024-T3 SHEET SPEC			
		REV. B			
		SHEET 1 OF 1			
		SCALE			
		NTS			

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NOT TO BE USED FOR ANY PURPOSES OR FOR ANY OTHER PERSONS WITHOUT
THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.500X2.500

PO / BATCH NO.: 038893/5038527

DATE: FEB 02 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500
 THICKNESS RECEIVED: 0.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Astm A240
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 434L
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>9-89 FEB 02 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION:

ASTM A276 OR ASTM A240
M304B | T.TTT | X | WWW.WWW |
THICK | WIDTH

PART NUMBER:

WHERE "T.TTT" = THICKNESS IN INCHES
AND "WWW.WWW" = WIDTH IN INCHES

△ EG. 0.5" x 3.0" BAR = M304B0.500X03.000
△ EG. 0.5" x 12.0" PLATE = M304B0.500X12.000

RELEASED
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE RELATED SPECIFICATIONS, AND EG, CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG, ADD SPECS (ZN D8-1).	CP	09.07.15
A	NEW ISSUE	PH	05.06.10
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	M304B		
APPROVED			
DE APPR.			
DATE	10.11.25		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. REV. C			
M304B SHEET 1 OF 1			
TITLE SCALE			
304/316 BAR/PLATE NTS			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.750x2.500
 DATE: FEB 02 2018

PO / BATCH NO. 038893/8038526

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 12"
 QUANTITY INSPECTED: 12"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750
 THICKNESS RECEIVED: 0.750
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>ASTM A276</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Heat # 266000</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N <input type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N <input type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS 11
 DATE: 9-89 FEB 02 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE
(NOT AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276 OR ASTM A240

△ PART NUMBER: M304B/TTTT | X | WWW.WWW |
THICK | WIDTH

WHERE "T.TTTT" = THICKNESS IN INCHES
AND "WWW.WWW" = WIDTH IN INCHES

△ EG. 0.5" X 3.0" BAR = M304B0.500X03.000
EG. 0.5" X 12.0" PLATE = M304B0.500X12.000

RELEASED
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL. ADDED PLATE RELATED SPECIFICATIONS AND EG. CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG. ADD SPECS (EN D6-1), REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	PH	05.06.10
REV	DESCRIPTION	BY	DATE
DESIGN	DT		
DRAWN	DT		
CHECKED	DT		
MFG. APPR.	DT		
APPROVED	DT		
DE APPR.	DT		
DATE	10.11.25		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304B		REV. C	
TITLE 304/316 BAR/PLATE		SHEET 1 OF 1	
SCALE NTS			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-A513-T-4000W0.120
 DATE: FEB 02 2018

PO/BATCH NO.: 038893/5038525

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 20'
 QUANTITY INSPECTED: 20'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.0120
 THICKNESS RECEIVED: W.0120
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	<u>Astm A513 Type 5</u>
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	<u>Heat # NLK 1663551</u>
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS
11
 DATE: 9-89 FEB 02 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

REV.	DESCRIPTION	ECON #	DATE	BY	APPROVED
A	NEW RELEASE	17-655	17.09.06	VM	VM
B	TYPE 5 ADDED. TEMPLATE UPDATED	17-790	17.12.13	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)

SPECIFICATION: ASTM A513 TYPE 5

PART NUMBER: MT-A513-T-(D.DDD)WT.TTT

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES

WHERE T.TTT IS WALL THICKNESS IN INCHES

EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

 DART AEROSPACE		TITLE ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING (DOM)	
		PART NO. MT-A513-T	
TOOL NO. -	INITIALS AND DATE -	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS ARE TO BE HONED DIMENSIONS ARE TO BE HONED	REV B
DESIGNED BY: VM 17/12/13 CHECKED BY: ML 12/20/2017 MFG REVIEW BY: DP 12/20/2017 APPROVED BY: ML 12/20/2017	TOLERANCES: FRACTIONS: 2.18 DECIMALS: 2.5 ANGLES: 2.5 ROUNDNESS: 2.5	SCALE: NTS SHEET 1 OF 1	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140QT-R 2.250

PO / BATCH NO: 038893/5038524

DATE: FEB 02 2018

MATERIAL CERT REQ'D: Yes
 QUANTITY RECEIVED: 20"
 QUANTITY INSPECTED: 20"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.250
 THICKNESS RECEIVED: 2.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Astm 4140QT Astm 4142QT</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Heat # 75065500</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="radio"/> N <input checked="" type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="radio"/> N <input checked="" type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.

RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS 11
 DATE: 9-8 FEB 02 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in:

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 4140 QUENCHED & TEMPERED STEEL ROUND BAR

SPECIFICATION:

ASTM 4140 QT or ASTM 4142 QT

PART NUMBER:

MT-4140QT-R [D.DDD]
WHERE "D.DDD" = DIAMETER IN INCHES

EG. 5/8" ROUND BAR = MT-4140QT-R0.625

[illegible]

ECU 17-655

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140QT-R1.375
 DATE: FEB 02 2018

PO / BATCH NO.: 038893/5038523

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 20⁴
 QUANTITY INSPECTED: 20¹¹
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.375
 THICKNESS RECEIVED: 1.375
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	<u>Astm A29</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	<u>Heat # 243795</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 FEB 02 2018</u>	SIGNED OFF BY: _____ DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	17-790	17.12.13	VM	ML
B	MIN & MAX Rc CHANGED	18-523	18.01.24	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 STEEL BAR
MINIMUM ROCKWELL C = 28 Rc
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:

ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-6826

PART NUMBER:

MT-4140-B-[T.TT] x [W.WWW]
WHERE "T.TT" = THICKNESS IN INCHES
WHERE "W.WWW" = WIDTH IN INCHES
EX. 4.0" x 6.0" BAR = MT-4140-B-4.000x6.000

PART Aerospace		Hawthorn, Christchurch, New Zealand	
TITLE AISI 4140 BAR			
PART NO. MT-4140-B		REV B	
TOL. IN.			
INITIALS AND DATE		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS ARE TO BE GIVEN TO THE NEAREST 0.001 INCHES DIMENSIONS ARE TO BE GIVEN TO THE NEAREST 0.001 INCHES	
DESIGNED BY:	VM 13/12/2017	TOLERANCES:	FINISHES:
DRAWN BY:	VM 01/24/2018	± 0.005	± 0.005
CHECKED BY:	VM 01/24/2018	± 0.01	± 0.01
WRO REVIEW BY:	DP 01/24/2018	± 0.05	± 0.05
APPROVED BY:	ML 01/24/2018	± 0.1	± 0.1
SCALE: 1:1		SHEET 1 OF 1	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M303R1.000
 DATE: FEB 02 2018

PO / BATCH NO.: 038893/5038522

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 24'
 QUANTITY INSPECTED: 24'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000
 THICKNESS RECEIVED: 1.000
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	ASTM A582
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	Heat # 232X
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N <input type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N <input type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.

RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS 11
 DATE: 9-89 FEB 02 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in.

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 303 SS ROUND BAR
(NOTE: AISI 304/316 NOT ACCEPTABLE)

SPECIFICATION: ASTM A582

PART NUMBER: M303R(D,DDD)
DIA.

WHERE "D DDD" = DIAMETER IN INCHES
EG. 0.75" ROUND BAR = M303R0.750

RELEASED
2010-02-02
JND

B	REFORMAT DWG. ADD SPECS (ZN D8-1), REF PAR 08-020A	CP	10 01 05
A	NEW ISSUE	DS	01 12 20
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.01.05		
DART AEROSPACE LTD HAYKESBURY, ONTARIO, CANADA			
DRAWING NO. M303R			
TITLE 303 ROUND BAR			
SCALE NTS			
SHEET 1 OF 1			
REV. B			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6 R1.625
 DATE: FEB 02 2018

PO / BATCH NO.: 038893/5038521

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12"
 QUANTITY INSPECTED: 12"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.625
 THICKNESS RECEIVED: 1.625
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	Astm B221
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # 201716738
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>		SIGNED OFF BY: _____	
DATE: <u>9-8 FEB 02 2018</u>		DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6T651/T6510T6511/T62 ALUMINUM ROUND BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/415/416)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221

PART NUMBER:

M6061T6R0.DDD

DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED
2009-09-08
JSP

B	REFORMAT DWG. ADD B2118 B221 SPEC (ZN DB-1).	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.13		

DART AEROSPACE LTD		REV. B
HAWKESBURY, ONTARIO, CANADA		SHEET 1 OF 1
DRAWING NO.	M6061T6R	SCALE
TITLE	6061-T6 ROUND BAR	NTS

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